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ABSTRACT

A case is made for the use of computer assisted instruction (CAI) in Child Development Associate (CDA) training programs conducted on-campus in conjunction with an educational curriculum or conducted off-campus in conjunction with child care programs. The following points are made: (1) CAI can be used to supplement and amplify a teacher's effectiveness; (2) CAI initially requires only a minimal introduction to computer use; (3) Computer-based self-instructional materials evolve in coordination with changes in national policy and practice; (4) Certain components of CDA competency-based training appear directly related to computerization; (5) CDA trainees using CAI gain knowledge of ways computer technology can be used in preschool settings; (6) Computer simulation with feedback to trainees' responses provides opportunities for increased learning; and (7) When employed in conjunction with pretests and posttests, CAI modules can be used in individualized self-evaluation interviews to facilitate learning and concept development. By way of illustrating this last use, segments of a CAI program based on a specific CDA competency are presented. Confronting trainees with hypothetical situations, the program segments indicate how computer-based self-instruction can enhance theoretical linkage between CDA competencies related to guidance and discipline and can teach discipline strategies based on behaviorist, interactionist, and nondirective approaches. (RH)

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CAI FOR CDA:

THEORY AND COMPETENCY

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The CDA credential is a nationally recognized certificate sponsored by the Administration for Children, Youth and Families and issued to competent caregivers for young children. Performance-based and requiring no academic prerequisites, its basic thrust is to provide high quality training for classroom staff, thus improving the quality of preschool programs for children. (Office of Child Development, 1973) CDA competencies are the substantive foundation for both training and credentialling of Child Development Associates who work in center-based early childhood programs. Acquisition of these competencies and their thirteen functional areas is the goal of both the Office of Child Development-funded pilot training programs and Head Start Supplementary Training Programs for Head Start classroom staff.

Although the CDA credential can be earned through training at a traditional child-care program, its competency-based training may be linked to a college degree by modifying or adding requirements to a regular educational curriculum. Provision of the CDA credential as an added option to associate or baccalaureate level candidates not only increases the pool of candidates, but adds institutional credibility and expanded visibility to the CDA credential. (Zigler and Kagan, 1981)

On or off campus, CDA training is enhanced if trainees are permitted to select their own instructional materials and work at their own pace. Most adult learners, while already motivated, are still trying to acquire study habits and cognitive strategies in order to guide their own learning processes. (Gagne, 1975) Not all students are independent learners. Teachers, therefore, must be aware of how much self-instruction each student is able to undertake and determine which instructional strategies to utilize.

Selection of computer-assisted instruction (CAI) as a vehicle for learning is significant. Within the last five years great change has occurred in the role of technology in the schools, colleges, and all other institutions of learning. Consequently it is necessary to address the effect of computers on curriculum and instruction and to review implications of computers for teacher education.

Part of the on-going instructional process, CAI can be used to supplement and amplify a teacher's effectiveness. Use of the computer is just another part of the instructional process. CAI design may focus on student performance by assisting students in presentation of material, problem solving, or analysis. The computer directs the presentation of some instructional materials; the student responds and, on the basis of an analysis of that response, the computer directs presentation of new materials, using frames similar to programmed instruction. (Levien, 1972) Interactive instruction occurs as the computer presents instructional material to the learner, accepts and judges the response, provides feedback, then alters the instruction based upon the learner's responses. Hence, the learner moves from acquisition of knowledge to its use and integration. Locus of control shifts from the computer to the learner who moves through hierarchical stages of learning. (Hall, 1980)

Management of a student's computer-based learning is enhanced as each student progresses at his own pace through use of textbooks, supplementary readings, videotapes, films, records, and conferences with an instructor. Students control their own progress by asking for more detail, an explanation of a concept, or a new idea. (Levien, 1972)

While some instruction about the computer is necessary in order for the student to gain optimal benefit from the program, CAI requires initially only

minimum introduction to computer use. Most CAI programs have tried to use the notion of short-term optimization - where the program takes advantage of current information and then tries to branch or modify the instruction routine as a function of that short-term information. (Gerard, 1967) Used well, the computer allows students to control their cognitive learning environment, and to select interactive experiences such as watching, finding, doing, using, constructing, and creating. (Damarin, 1982) Papert's ideas on the use of the computer for understanding of complicated concepts applies well to the education of teachers. (Papert, 1982)

Child Development Associate competencies are evolutionary and will be subject to greater specification and validation as development of both training strategies and assessment procedures continue. Development of computer-based self-instructional materials, therefore, constitutes an on-going process as attempts are made to coordinate with national practice. Certain components of CDA competency-based training appear directly related to computerization. Use of CAI for CDA as a supplement to regular training reinforces theoretical concepts and justifies award of college credit. In turn, use of off-line materials reinforces knowledge gained at the machine.

Training for pre-school teachers is no different from training of other teachers as far as the need to develop computer literacy is concerned. College-based CDA training can enhance computer literacy for those teachers who will gain knowledge not only of CDA competencies, but also, indirectly, of ways in which computer technology may be used in their own pre-school setting. (Diem, 1982) By learning how computers can help them, they will become interested in computer literacy, then seek training on the use of computers for their own classroom.

The ability of CAI to give continuous feedback on materials offers

opportunity for the programmer to design simulation so that students have firsthand learning experiences with the phenomena they're studying. Since student learning occurs directly as a consequence of experience, students can use trial and error application to simulated realities. (Levien, 1972) For example, simulation of situations which pre-school teachers might encounter in the classroom permits them to learn fundamentals of diagnosis and to select certain types of responses. Since the student controls his own path, he can ask for more detail or an explanation of a concept, a demonstration, or a new idea.

CDA training relies on the acquisition and development of competencies while the candidate is working with young children. Central to CDA training is the careful integration of theoretical preparation in child development and early childhood education and practical, everyday, on-the-job experience. (Klein and Lombardi, 1982) Such training needs to be individualized in order to focus on the trainee's strengths and areas that need improvement. An interactive model for CDA training includes field advising. During the self-evaluation interview with the trainer, the candidate completes an individualized self-evaluation of each CDA competency in terms of classroom performance. At the end of the interview the trainee is able to focus on several areas for in-depth attention. Once the trainer has defined specific needs, modules may be designed to facilitate the desired learning and concept development. Use of an individual learning plan permits trainees to select those modules to which they're committed. (Galler, 1981) Each module may include a wide variety of learning experiences such as content, instruction, mode of presentation, and duration.

The following program has been selected to demonstrate how computer-based self-instructional materials may be developed to enhance theoretical linkage

between a CDA competency related to guidance and discipline and to strategies of discipline based upon behaviorist, interactionist, or the non-directive approach. The program goal has been selected to enhance instruction of theories of discipline upon which CDA competency III, 10 is based. Competency III has been developed to promote children's social and emotional development and to provide positive guidance and discipline. Section 10 relates to guidance and discipline that the candidate may learn how to provide an environment in which children can learn and practice behaviors which are appropriate and acceptable individually and in a group. It is assumed that candidates will be familiar with stages of social development of children ages 0-7, will have been introduced to text materials for the three discipline models, and will have reviewed concepts related to the behaviorist, interactionist and non-interventionist schools of thought.

Objectives of the program have been designed to permit student candidates to become aware of different learning theories, both preventive and interventive, upon which Competency III, 10 is based. As well, it will permit students to become aware of their own attitudes and responses to hypothetical classroom situations and of their own assumptions regarding group management and discipline with young children. Pre- and post-tests will be used to determine students' knowledge of learning theory upon which CDA III, 10 is based as well as students' attitude and responses toward a hypothetical situation.

The program has been designed to confront students with hypothetical situations involving, for example, separation, anxiety, disruptive behavior, attention, power struggle, respect for others, or respect for property. Each hypothetical situation contains an open-ended response based upon theories of discipline and learning. The student, having selected one or more possible

responses, is asked to review reasoning behind those responses selected. Through looping, the student has opportunity to select other responses, to review additional reasoning, or to proceed to another hypothetical situation.

Evaluation consists of examination of differences between pre and post-test responses concerning students' knowledge of learning theory upon which CDA III, 10 is based. Students' attitudes and responses toward a hypothetical situation are then analyzed to determine significant change.

Such computer-based self-instructional materials are applicable to students engaged in CDA training at a college or pre-school center. These materials can be developed and made accessible to local libraries, learning resource centers, neighborhood groups, and pre-school programs. This project currently consists of selected catalogued hypothetical situations relevant to CDA Competency III, 10 and of catalogued potential responses based upon relevant learning theory. This projects adds significant dimension to training programs for all workers in pre-school programs who wish to achieve college-level credit in a self-paced, easily accessible, non-threatening mode. Potential, therefore, for use of CAI for CDA in enormous as more and more states mandate acquisition of the CDA certificate for workers in early childhood and as an additional number of workers seek career mobility through college education.

It is important to remember that CAI is only one of many learning experiences available to the learner who will have access to a variety of materials. The CAI mode is viewed as a supplement to these materials and may be chosen by the learner to provide reinforcement of knowledge introduced through trainer discussion, observation, or readings.

Use of systematic instructional design enhances appreciably the likelihood that courseware materials will accomplish the author's purpose.

Use of a planned, organized method of creating instruction which reflects appropriate conditions of learning for individual students is based upon early efforts with instructional technology in education. (Gagné and Briggs, 1974) Models of instructional design, therefore, should contain step-by-step procedures for identifying exactly what individuals are to learn and should specify exactly what activities are required to bring about the learning. (Roblyer)

Segments of a CAI program based upon Competency III, 10 are presented below:

WELCOME TO THE COMPUTER ASSISTED INSTRUCTION MODULE.
TO WORK WITH THIS PROGRAM, YOU WILL NEED TO FIND THE 'RETURN' KEY.
IT IS LOCATED ON THE UPPER RIGHT OF THE KEYBOARD.
WHEN YOU ARE ASKED TO TYPE LETTERS,
JUST FIND THE LETTER ON THE KEYBOARD.
PRESS RETURN TO CONTINUE.

THIS PROGRAM WILL PRESENT A SAMPLE
BEHAVIORAL PROBLEM IN A PRESCHOOL CLASSROOM.
PRESS RETURN TO CONTINUE.

AT THE END OF THE QUESTION
YOU WILL SEE A SERIES OF POSSIBLE RESPONSES.
CHOOSE THE RESPONSE THAT YOU MOST
STRONGLY AGREE WITH.
THEN READ THE THEORETICAL POSITION BEHIND YOUR CHOICE
AND THE POSSIBLE OUTCOME OF THAT DECISION.

WHEN YOU ARE FINISHED READING, YOU
WILL RETURN TO THE LIST OF RESPONSES.
PRESS RETURN TO CONTINUE.

CHOOSE AND READ FOR THE REMAINING ANSWERS
UNTIL YOU HAVE COVERED ALL OF THEM.
AT THE END OF THE EXERCISE, YOU WILL
HAVE AN OPPORTUNITY TO RECORD YOUR
THOUGHTS ON THE QUESTION.

DO YOU WANT TO REVIEW THESE INSTRUCTIONS?
TYPE Y FOR YES OR N FOR NO AND
PRESS RETURN TO CONTINUE.

S H A R I N G

LEARNING HOW TO SHARE IS A LARGE PART OF CHILDREN'S GROWTH.
SEVERAL FOUR YEAR OLDS ARE PLAYING AT THE SAND TABLE
JASON REFUSES TO LET KIM DIG INTO "HIS" HILL.
KIM BEGINS TO CRY.

WHAT WOULD YOU DO?
CHOOSE THE ANSWER BELOW WITH WHICH YOU WOULD
MOST CLOSELY AGREE.

A. ASK BOTH JASON AND KIM TO TELL EACH OTHER HOW
THEY FEEL.

B. IGNORE JASON AND TELL MARK THAT YOU LIKE THE WAY HE IS SHARING
WITH TANYA.

C. BRING THE GROUP TOGETHER AND DISCUSS
WAYS OF SHARING IN THE SANDBOX TO ESTABLISH
RULES AND CONSEQUENCES.

D. TELL JASON THAT HE SHOULD THINK ABOUT HOW
HE'S HURT KIM: SHARING IS WHAT YOU'D LIKE HIM TO DO.

TYPE IN THE LETTER OF YOUR RESPONSE.

IF YOU CHOSE "A" ("ASK BOTH JASON AND KIM TO TELL EACH OTHER HOW THEY FEEL"):
THIS IS A NON-DIRECT APPROACH.
SINCE JASON AND KIM OWN THE PROBLEM, THEY MUST WORK
TOWARD AN ACCEPTABLE SOLUTION.
YOUR ROLE IS TO FACILITATE THAT.
PRESS RETURN TO CONTINUE.

POSSIBLE OUTCOME: JASON AND KIM MAY REACH A DECISION
THAT IS AGREEABLE TO EACH OF THEM.
IT DOES NOT HAVE TO AGREE WITH YOUR
OWN OPINION OF A GOOD SOLUTION.
FOR EXAMPLE, JASON MAY CONVINCE
KIM THAT GIRLS SHOULDN'T BE DIGGING IN SAND.
THEY MIGHT AGREE THAT IT'S MAN'S WORK.
PRESS RETURN TO CONTINUE.

IF YOU CHOSE B: ("IGNORE JASON AND TELL MARK THAT YOU LIKE
THE WAY HE IS SHARING WITH TANYA.")
THIS IS A BEHAVIORIST APPROACH.
BY IGNORING THE INAPPROPRIATE BEHAVIOR (NON-SHARING)

AND REINFORCING THE APPROPRIATE BEHAVIOR (SHARING)

YOU HAVE USED POSITIVE REINFORCEMENT

AND PROVIDED ALL THE CHILDREN WITH

A GOOD MODEL.

PRESS RETURN TO CONTINUE.

POSSIBLE OUTCOME:

IF JASON WANTS YOUR PRAISE (POSITIVE ENFORCEMENT),

EVENTUALLY HE WILL STOP THE UNDESIRABLE BEHAVIOR.

IT IS MOST EFFECTIVE IF ONE BEHAVIOR IS WORKED ON AT A TIME.

IT WILL REQUIRE CONSISTENT BEHAVIOR

ON YOUR PART OVER A PERIOD OF TIME

BEFORE RESULTS CAN BE SEEN.

PRESS RETURN TO CONTINUE.

IF YOU CHOSE C: ("BRING THE GROUP TOGETHER AND DISCUSS

WAYS OF SHARING IN THE SANDBOX TO ESTABLISH RULES AND CONSEQUENCES"):

THIS IS AN INTERACTIVE APPROACH.

CHILDREN MUST KNOW IN ADVANCE WHAT

THE PROBLEM IS AND HAVE AGREED

TO ACT IN CERTAIN WAYS.

IF THEY DO NOT, THEN THEY MUST

ACCEPT THE AGREED UPON CONSEQUENCES.

THE SAME CONSEQUENCES APPLY TO ALL.

PRESS RETURN TO CONTINUE.

POSSIBLE OUTCOME:

JASON'S BEHAVIOR WILL HAVE TO
WAIT TO BE CORRECTED UNTIL THE GROUP DISCUSSION.
HE MAY ASSUME RESPONSIBILITY FOR HIS
BEHAVIOR WITH ONLY A SMALL REMINDER
FROM YOU ABOUT EVERYONE'S AGREEMENT.
AT THIS AGE, HE MAY NOT UNDERSTAND
OR REMEMBER THE CONSEQUENCES RELATED TO THE ACT.
PRESS RETURN TO CONTINUE.

IF YOU CHOSE D: ("TELL JASON THAT HE SHOULD THINK ABOUT
HOW HE'S HURT KIM: SHARING IS WHAT YOU'D LIKE HIM TO DO"):

THIS IS A FREQUENTLY USED RESPONSE.
IT DOES NOT BELONG TO ANY OF THE
THEORIES PRESENTED HERE.
IT RELIES ON TEACHER CONTROL AND
ATTEMPTS TO MAKE JASON CONFORM TO
STANDARDS OF GOOD BEHAVIOR.
PRESS RETURN TO CONTINUE.

POSSIBLE OUTCOME:

JASON MAY STOP WHAT HE IS DOING.
IF HE DOES, IT MAY BE BECAUSE OF
GUILT AND FEAR OF YOUR DISAPPROVAL.
ALTHOUGH THIS WAY CAN BE EFFECTIVE IN THE SHORT RUN,
HE WILL PROBABLY NOT INTERNALIZE IT AND NEED YOU

THERE TO MONITOR HIS FUTURE BEHAVIOR.

PRESS RETURN TO CONTINUE.

IF THE ANSWER YOU TYPED WAS NOT A, B, C, OR D.

PRESS RETURN TO GO BACK TO

THE RESPONSE MENU. YOU CAN THEN ENTER YOUR RESPONSE.

NOW SELECT YOUR SECOND CHOICE.

NOW SELECT YOUR THIRD CHOICE.

NOW SELECT YOUR LAST CHOICE.

THESE ARE ONLY A FEW WAYS THE

SHARING ISSUE COULD BE RESOLVED.

YOU PROBABLY HAVE DEALT WITH THIS

IN MANY DIFFERENT WAYS.

WHAT ARE YOUR IDEAS ON IT?

USE YOUR TAPE RECORDER FOR YOUR

RESPONSE AND DISCUSSION.

PRESS RETURN FOR FURTHER INSTRUCTIONS.

WHEN YOU HAVE COMPLETED YOUR

RESPONSE AND DISCUSSION USE THE

TAPE RECORDER AGAIN TO DESCRIBE

ANOTHER CLASSROOM SITUATION WHICH

INVOLVES SHARING.

YOU WILL USE YOUR CASE STUDY AS THE

BASIS FOR AN INSTRUCTIONAL PROGRAM

OF YOUR OWN.

DO YOU WANT TO REVIEW THESE INSTRUCTIONS?

IF YOU WANT TO REVIEW THIS MODULE,
TYPE A "Y" AT THE PROMPT.
IF YOU ARE FINISHED JUST PRESS RETURN.

DO YOU WANT TO REVIEW THE MODULE?

SINCE YOU ARE FINISHED, YOU CAN TAKE
THE DISK OUT OF THE DISK DRIVE AND
STORE IT IN THE ENVELOPE.

THE MONITOR TURNS OFF LIKE A TELEVISION.
THE COMPUTER ON/OFF SWITCH IS
LOCATED IN THE BACK, ON YOUR LEFT.
GOODBYE!
END.

REFERENCES

Damarin, Suzanne K. "Technology in the Classroom: Initiative or Response? New Directions in Curriculum Development." Paper presented at the Annual Meeting of the American Association of Colleges for Teacher Education, Houston, Texas, February 17-20, 1982.

Gagné, R. M. and Briggs, L. J. Principles of Instructional Design. New York: Holt, Rinehart and Winston, 1974.

Galler, Barbara. "Providing CDA Training With an Interactive Model," Young Children, 36, no. 3 (March 1981), 25-32.

Gerard, R. W. Computers and Education. New York: McGraw-Hill, 1967.

Hall, Keith A. Computer-Based Education: The Best of ERIC, June 1976-August 1980. National Institute of Education (DHEW), Washington, D.C.

Instructor Interview with Seymour Papert, "Computers Are Objects To Think With," Instructor, 91, no. 7 (March 1982) 86-87, 89.

Klein, Jenni and Lombardi, Joan, "The CDA Program," Children Today, 11, no. 6 (November-December, 1982) 2-6.

Levien, Roger, et.al. The Emerging Technology: Instructional Uses of the Computer in Higher Education. New York: McGraw-Hill, 1972.

Office of Child Development. The CDA Program: The Child Development Associate, A Guide for Training. Washington, D. C.: U.S. Department of Health, Education, and Welfare, Office of Human Development, Office of Child Development, 1973. OHD 75-1065.

Roblyer, M. D. "Instructional Design vs. Authoring of Courseware: Some Crucial Differences," Tallahassee, Florida: ICON Enterprises, unpublished paper.

Zigler, Edward and Kagan, Sharon, "The Child Development Associate: A Challenge for the 1980's," Young Children, 36, no. 5 (July 1981) 10-15.